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P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER
BAIG, SAHAR A

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 10/014,179
Filing Date: November 13, 2001
Appellant(s): DIMITROVA ET AL.

_____
Dimitrova et al.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 03/01/2010 appealing from the Office action

mailed 08/28/2009.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 2, 9 and 35 are cancelled.

Claims 1, 3-8, 10-34, and 36-40 are pending in the application.

Claims 1, 3-8, 10-34, and 36-40 stand rejected by the Examiner under 35 U.S.C. 103(a).

These claims are the subject of this appeal.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

5,676,138	Zawilinski	10-1996
6,400,996	Hoffberg	6-2002
5,483,278	Strubbe	01-1996
5,774,591	Black	06-1998

2003/0101449   Bentolila   05-2003

2003/0005431   Shinohara   01-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claim 1-8, 10-30, 36, 39, and 40 rejected under 35 U.S.C. 103(a) as being

unpatentable over Zawilinski, U.S. Patent No. 5,676,138, in view of Hoffberg et al., U.S.

Patent No. 6,400,996 in further view of Strubbe U.S. Patent No. 5,483,278.

Regarding claim 1, Zawilinski discloses a multimedia system comprising

a receiver for receiving and displaying television programming (Figure 1 item 8);

at least one sensor for sensing a physical reaction by the viewer viewing the

displayed programming (Figure 1 item 12) and generating a signal representative

of the physical reaction (Col. 4 line 47);

a processor for receiving and analyzing the signal to determine if it can be

associated with at least one recognizable viewer emotional response (Col. 4 line

47-57), whereupon the processor associates the recognized emotional response with a descriptive information relating to a program that was being displayed when the physical reaction was sensed (Col. 5 line 35-43), to provide a viewer preference relating to the descriptive information (Col. 3 line 19-22).

Zawilinski fails to teach of a memory device for storing the association between the programming description and sensed reaction as the viewer preference; a monitoring system that monitors subsequent programs that become available to be displayed; a recommender that is configured to recommend subsequent programs based on the viewer preference; and a notification system for notifying and/or presenting a subsequent program based on the viewer preference. In an analogous art, Hoffberg discloses a memory device for storing the association between the programming description and sensed reaction as the viewer preference (Col. 65 lines 34-55); and a recommender that is configured to recommend subsequent programs based on the viewer preference (Col. 65 16-22). Thus, it would have been obvious to one having ordinary skill in this art at the time of the invention to modify the at least one sensor of Zawilinski to provide additional physiological data from which the user's preferences can be inferred.

Still the combined teachings of Zawilinski and Hoffberg fail to teach a monitoring system that monitors subsequent programs that become available to be displayed; and a notification system for notifying and/or presenting a subsequent program based on the viewer preference. In an analogous art, Strubbe discloses a monitoring system that monitors subsequent programs that become available

to be displayed (Col. 2 lines 41-47); and a notification system for notifying and/or presenting a subsequent program based on the viewer preference (Col. 2 lines 41-47). Therefore it would have been obvious to one of ordinary skill in the art to combine the teachings of Strubbe with Zawilinski and Hoffberg to devise a recommender system capable of suggesting subsequent programs for the benefit of aiding in the selection of user preferred programming.

As to claim 2, Zawilinski and Hoffberg together disclose the claimed memory device (see Hoffberg, col. 113, lines 47-66).

As to claim 3, Zawilinski further discloses the system comprises a plurality of sensors. (Col. 6, lines 3-26).

As to claim 4, Zawilinski further discloses the claimed sensor-signal receiver (fig 1, item 18; col. 6, lines 27-35).

As to claim 5, Zawilinski further teaches the system can analyze various physiological data including heart rate, galvanic skin response, etc. (i.e., aggregation of signals; see Zawilinski as applied to claim 1, above).

As to claims 6-8, Zawilinski and Hoffberg together disclose the use of a camera (video pattern recognition; Hoffberg, col. 116, lines3-14) and video recorder

recording images captured by the camera to an image library for comparing to
video images received from the camera (internal database; Hoffberg, col. 59
lines 33-61).

As to claim 10, Hoffberg, further discloses the system comprises an
environmental sensor for sensing a change in the viewing environment, as
claimed (col. 127,lines 5-40).

Regarding claim 11, Zawilinski discloses a method of assessing viewer response
to television programming that includes one or more distinct segments, said
method comprising: providing a receiver on which the viewer may view the
programming (Figure 1 item 8); monitoring at least one viewer physical condition
(Figure 1 item 12); associating the at least one viewer physical condition with a
viewer response (Col. 4 line 47); and associating a viewer preference relating to
the program segment based on the viewer response (Col. 5 lines 35-43).
Zawilinski fails to disclose determining when a program segment is being
received that corresponds to a pre-selected viewer response previously
associated with the at least one viewer physical condition; determining predicted
preferences relating to subsequent programming based on the viewer
preference; and notifying and/or presenting a subsequent program based on the
viewer preference. In an analogous art, Hoffberg discloses disclose determining
when a program segment is being received that corresponds to a pre-selected

viewer response previously associated with the at least one viewer physical

condition (Col. 116 lines 3-14, 33-49 Col. 118 lines 27-43); and determining

predicted preferences relating to subsequent programming based on the viewer

preference (Col. 65 lines 16-22). Thus, it would have been obvious to one having

ordinary skill in this art at the time of Applicant's invention to modify the at least

one sensor of Zawilinski to provide additional physiological data from which the

user's preferences can be inferred. Still the combined teachings of Zawilinski and

Hoffberg fail to teach notifying and/or presenting a subsequent program based on

the viewer preference. In an analogous art, Strubbe discloses a notification

system for notifying and/or presenting a subsequent program based on the

viewer preference (Col. 2 lines 41-47). Therefore it would have been obvious to

one of ordinary skill in the art to combine the teachings of Strubbe with Zawilinski

and Hoffberg to devise a recommender system capable of suggesting

subsequent programs for the benefit of aiding in the selection of user preferred

programming.

As to claim 12, Zawfilinski and Hoffberg together disclose monitoring a plurality of

viewer physical conditions (Zawilinski, col. 6, lines 3-26).

As to claim 13, Zawilinski further teaches the system can plot various stimuli

changes over time (i.e., changes in condition relative to a baseline level). (Col. 9

lines 12-20).

As to claim 14, Zawilinski and Hoffberg together disclose the claimed subject matter. In particular, Hoffberg discloses the physical condition is body temperature (col. 61 lines 13-30).

As to claim 15, Zawilinski further teaches the system can analyzed the heart rate of a user. (see rejection of claim 1).

As to claims 16 and 17, see the rejection of claims 6-8, above.

As to Claim 18, Zawilinski and Hoffberg together disclose the claimed subject matter. In particular, Hoffberg discloses determining characteristics of a displayed programming segment, associating a viewer response corresponding to a physical condition with a viewer preference level, and applying the preference level to enhance program selection (col. 61 lines 14-30).

As to claim 19, Hoffberg further teaches providing a notification that specified future programming will contain at least one segment possessing the at least one distinguishing characteristic (col. 116 lines 50-60).

As to claim 20, Hoffberg further teaches enhancing the program selection by

inserting a segment possessing the distinguishing characteristic (col. 116 lines
50-65).

As to claims 21 and 22, Hoffberg further discloses the characteristic is derived
from EPG information provided with the programming, including text (col. 150
lines 38-54).

As to claim 23, Hoffberg further discloses the claimed recorder for automatically
recording the segment corresponding to a pre-selected viewer response (see
portions of Hoffberg cited above).

As to claim 24, Hoffberg further discloses extracting information related to the
program segment that corresponds to pre-selected viewer response from the
programming, and automatically displaying the information (col. 124 lines 45-57).

The limitations of claim 25 are encompassed within the portions of Zawilinski
used to reject claim 1.

As to claim 26, Zawilinski further teaches the system can analyzed the galvanic
skin response of a user. (Col. 6 lines 10-19).

As to claims 27 and 28, Zawilinski further teaches the system is capable of

measuring the gaze of the viewer and the electrical activity in muscles, which

relates to negative/positive facial expressions (i.e., visually observable

response). (Col. 4 lines 13-31 and citations of Claim 1).

As to Claim 29, Zawilinski further teaches the system can track the direction of

the user's gaze. (Col. 9 lines 50-64).

As to claim 30, Zawilinski further discloses the system is capable of analyzing the

movement (i.e., changes in direction) of the viewers gaze and correlating the

gaze direction with specific time periods (col. 9 lines 50-64, col. 4 lines 42-47).

Regarding claim 34, Zawilinski discloses a method of assessing listener

response to audio programming, comprising:

providing a receiver having a speaker for presenting the audio programming to

the listener (Figure 1 item 8); monitoring at least one listener physical condition

(Figure 1 item 12); associating the at least one listener physical condition with a

viewer emotional response (Col 4 lines 47-57); associating the viewer emotional

response with a user preference relating to the audio programming (Col 5 lines

35-43). Zawilinski fails to disclose recommending subsequent audio

programming based on the user preference; and notifying and/or presenting the

subsequent audio programming based on the user preference. In an analogous

art, Hoffberg discloses recommending subsequent audio programming based on

the user preference (Col. 65 16-22). Thus, it would have been obvious to one

having ordinary skill in this art at the time of Applicant's invention to modify the at

least one sensor of Zawilinski to provide additional physiological data from which

the user's preferences can be inferred. Still the combined teachings of Zawilinski

and Hoffberg fail to teach notifying and/or presenting a subsequent program

based on the viewer preference. In an analogous art, Strubbe discloses a

notification system for notifying and/or presenting a subsequent program based

on the viewer preference (Col. 2 lines 41-47). Therefore it would have been

obvious to one of ordinary skill in the art to combine the teachings of Strubbe with

Zawilinski and Hoffberg to devise a recommender system capable of suggesting

subsequent programs for the benefit of aiding in the selection of user preferred

programming.

As to claim 36, Zawilinski and Hoffberg together disclose the method of claim 34,

wherein an audible response is detected to infer the listener's mood. Official

notice is taken that laughter is a well-known audible indication of mood. Thus, it

would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the system of Zawilinski and Hoffberg to include listener

laughter as an audible response, thereby providing an addition indication of the

listener's mood.

Regarding Claims 39 and 40 Hoffberg discloses using biometric sensor data to

create a dynamic user preference profile, wherein voice patterns of the user are

detected and associated with a recognizable emotional response (i.e., moods;

col. 116,lines 3-14, col. 61,lines 14-30, col. 65,lines 23-55; a microphone, or

electro-acoustic transducer, is inherently present in where an acoustic signal

(i.e., voice) is interpreted by an electrical device).

Claims 31 and 32 rejected under 35 U.S.C. 103(a) as being unpatentable over

Zawilinski in view of Hoffberg in further view of Strubbe U.S. Patent No. 5,483,278

applied to claim 27 above, and further in view of Black et al. (US Patent No. 5,774,591).

Claim 31 recites the method of claim 27, wherein the visually observable

response includes the furrowing of the viewer's brow. As discussed above, the

combined systems of Zawilinski, Hoffberg and Strubbe render obvious all

limitations of Claim 27, and Zawilmski further teaches the system can analyzed

the electrical impulses in the user's muscles (i.e., which can related to facial

expressions), but fails to specifically recite analyzing eyebrow furrowing.

However, within the same field of endeavor, Black et al disclose a similar system

which analyzes changes in the viewer's eye brows. (Abstract; Col. 7 lines 1-45;

Col. 26 lines 50-67; Col. 28 lines 28-62). Accordingly, it would have been obvious

to one having ordinary skill in this art at the time of Applicant's invention to

combine the systems of Zawilinski, Hoffberg, Strubbe and Black in order to
provide a system capable of analyzing facial features, thereby affecting the
operation of a computer system.

The limitations of claim 32 would be obvious variants of the limitations of claim
31. Since Black et al allow for the analysis of user eyebrows, analyzing the depth
of movement in said eyebrows would only be an obvious variant. Accordingly, it
would have been obvious to one having ordinary skill in this art at the time of
Applicant's invention to modify the combined systems of Zawilinski, Hoffberg,
Strubbe, and Black in order to provide a system which analyzes the depth of
furrows, thus allowing for an analysis of the level of a viewer facial response (i.e.,
level of anger, surprise, understanding, etc).

Claims 33 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over
Zawilinski, in view of Hoffberg, as applied to claims 11 and 34 above, and further in view
of Bentolila et al. (US Pat. Pub. No. 2003/0101449).

Zawilinski, Hoffberg, and Strubbe together disclose the limitations of claims 11
and 34, but fail to discuss the limitations of claims 33 and 38. However, within the
same field of endeavor, Bentolila et al disclose a similar system which utilizes a
Hidden Markov technique. (Par. (0021)). Accordingly, it would have been obvious
to one having ordinary skill in this art at the time of Applicant's invention to

combine the systems of Zawilinski, Hoffberg and Bentolila in order to provide a

system for user profile data prediction.

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zawilinski in

view of Hoffberg in view of Strubbe, as discussed under claim 34, and further in view of

Shinohara. (US Pat. Pub. No. 2003/0005431).

Claim 37 recite the method of Claim 34, wherein the audibly observable

response is the inflection (i.e., changes in pitch or tone) of a listener's

vocalization, tending to indicate a question has been enunciated. As discussed

above, the combined systems of Zawilinski and Hoffberg render obvious all

limitations of Claim 34, but fail to specifically recite the limitations of Claim 37.

However, within the same field of endeavor, Shinohara discloses a similar

system which analyzes spectral data related to speech patterns, such as pitch,

tone, frequency, etc., in order to identify a television viewer. (Par. (0026)).

Accordingly, it would have been obvious to one having ordinary skill in this art at

the time of Applicant's invention to combine the systems of Zawilinski, Hoffberg,

Strubbe and Shinohara in order to provide a system which is capable of

analyzing various tones, pitches, etc. of a given voice.

(10) Response to Argument

In response to appellant's arguments the examiner respectfully disagrees that the

rejection should be reversed. Only those arguments raised by the appellant

pursuant to the particular issues on appeal have been considered and addressed

by the examiner. Should the panel find that the examiner's position/arguments or

any aspect of the rejection is not sufficiently clear or a particular issue is of need

of further explanation, it is respectfully requested that the case be remanded to

the examiner for further explanation prior to the rendering of a decision. See 37

CFR 41.40(a)(1).

a.   **Claims 1, 3-8, 10, and 40**

On page 8 of 23 of the Appeal Brief, Appellant argues that Zawilinski does

not teach or suggest determining an association between the viewer

reactions and descriptive information related to the stimuli that produces

the reaction. Examiner respectfully disagrees. In Col. 5 lines 35-65

Zawilinski discloses a system for displaying each of a plurality of semantic

descriptors associated with each of a plurality of emotional responses to

the stimulus presented at a given time. This shows that there exists an

association between the viewer reactions and descriptive information

related to the stimuli that produces the reaction for Zawilinski's system to

be able to display the related information.

Appellant further argues that Hoffberg does not teach associating a

recognized emotional response or mood with descriptive information

relating to a program to identify a user's preference. Examiner respectfully

disagrees. In Col. 65, lines 33-55, Hoffberg discloses a system where to

determine moods a number of physiologic parameters may be detected

and then correlated with temporally associated preferences. The system is then able to link the preferences with the information regarding the surrounding circumstances ("descriptive information") and store that data. For example, the manner in which a person plays a video game may provide valuable data for determining the person's mood and the information surrounding the particular act performed in the course of playing the game ("descriptive information") is linked by the system to the person's mood and stored.

b.   Claims 11-30, 34, 36, and 39

The arguments presented are based upon the alleged failure of showing the elements of Claim 1. Since the Examiner has argued her position above with regards to Claim 1 the arguments presented are moot.

c.   Claim 10

With regards to Claim 10, Appellants argue that the prior art fails to identify "transmitting environmental information to the processor for use in analyzing viewer physical reactions." Hoffberg discloses this in Column 127 – 128 in Example 18 where it is shown that the sensors employed to detect a change in the environment. In particular, in Column 130 lines 51-65, Hoffberg disclose that the detected changes in the environment, such as door opening allowing cooler air to drift in, are going to be employed to

control an event, as well as using a predictive algorithm in order to

determine a best course of action and a desired correction.

d.   **Claims 18-22**

With regards to Claim 18, Appellants argue that Hoffberg does not

determine the viewer's response based on a physical condition while

viewing a displayed program having a determined characteristic. Examiner

respectfully disagrees. In column 61, lines 14-30 Hoffberg discloses a

system that allows a dynamic user preference profile determination based

on explicit or implicit desires, e.g., moods, which assist in processing data

to make decisions which conform to the user preference at a given point in

time. For example, voice patterns, skin temperature, heat pulse rate,

external context, skin resistance (galvanic skin response), blood pressure,

stress, as determined by EMG, EEG or other known methods,

spontaneous motor activity or twitching, may be detected in order to

determine or infer a user mood, which may be used as a dynamic

influence on the user preference.

e.   **Claim 19**

With regards to Claim 19, Appellants argue that Hoffberg does not

disclose identifying any particular feature to the viewer, and cannot be

said to provide a notification that a future program will contain a segment

possessing the distinguishing characteristic. Examiner respectfully

disagrees. In Col. 116 lines 33-60, Hoffberg discloses that the system is

capable of predicting what future broadcasts will closely resemble the

broadcast the user has previously liked. In the Example listed, Hoffberg

discloses that if a user has been in the habit of recording the 11 o'clock

news by NBC station every weeknight in the past, the most likely

suggestion would be the 11 o'clock news by NBC. The prediction of a

lower probability will be 11 o'clock news by ABC.

f.   **Claim 20**

With regards to Claim 20, Appellants argue that Hoffberg does not

disclose inserting segments into programs possessing a determined

distinguishing characteristic. Examiner respectfully disagrees. In Col. 116

lines 50-65, Hoffberg discloses presenting the adaptations ("segments")

based on user preference ("determined distinguishing characteristic")

along with a menu selection to allow rejection of these predicted choices.

Therefore the predicted choices, which contain the distinguishing

characteristics are inserted in a menu for selection by the user.

g.   **Claim 31-32**

The arguments presented are based upon the alleged failure of showing

the elements of Claim 11. Since the Examiner has argued her position

above with regards to Claim 11 the arguments presented in this section are moot.

h.   Claim 33 and 38

The arguments presented are based upon the alleged failure of showing the elements of Claim 11 and 34. Since the Examiner has argued her position above with regards to Claim 11 and 34 the arguments presented in this section are moot.

i.   Claim 37

The arguments presented are based upon the alleged failure of showing the elements of Claim 34. Since the Examiner has argued her position above with regards to Claim 34 the arguments presented in this section are moot.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Sahar A Baig/

Examiner, Art Unit 2424

Conferees:

/Christopher Kelley/

Supervisory Patent Examiner, Art Unit 2424

/Christopher Grant/

QAS, TC 2400